Wicking fabrics may be non-absorbent. Wicking fabrics may include a system of fibers that work like capillaries to carry water. Wicking fabrics may have surface texture, for example, puckers in the fabric may increase the surface area and enhance evaporation. Wicking outer layer **36** may also be a surface treatment, for example, a liquid or spray that may be applied to an outer surface of impermeable inner layer **32**. The surface treatment may be a surfactant (e.g., Woolite®) that decreases water surface tension and promotes wetting of fabric.

[0033] In some embodiments of the invention, a semi-impermeable layer may be substituted for impermeable layer **32**. The semi-impermeable layer may be at least impermeable to liquid water, but semi-impermeable to water vapor, such as a GORE-TEX® type of material.

[0034] Human **24** may excrete or exude liquid sweat **40** from skin **26**. If no undergarment **28** is present, liquid sweat **40** may evaporate directly from skin **26**, pass through air space **30** as sweat vapor, and condense on inner surface **34** as condensed sweat **42**. If undergarment **28** is present, liquid sweat **40** may pass through undergarment **28**, evaporate from undergarment **28**, pass through air space **30** as sweat vapor, and condense on inner surface **34** as re-condensed liquid sweat **42**. In either case, skin **26** may be directly or indirectly cooled by evaporation of liquid sweat **40**.

[0035] As will be described in more detail below, condensed sweat **42** may be collected and transported to wicking outer layer **36**. In addition or alternatively, liquid sweat **40** that may not have evaporated may be collected and transported through impermeable inner layer **32** to wicking outer layer **36**. On or in wicking outer layer **36**, the transported sweat **44** may evaporate from external surface **38** of garment **10**. Evaporation of transported sweat **44** from external surface **38** may cool wicking outer layer **36**, thereby indirectly cooling impermeable inner layer **32**, air space **30**, and human **24**. It should be noted that, in some embodiments of garment **10**, wicking outer layer **36** may be included only in selected areas of garment **10**. For example, wicking outer layer **36** may be included on areas of garment **10** that are near to areas of human **24** which exhibit the greatest increases in sweat rate when the core temperature of human **24** increases. Such areas of higher sweat rates in human **24** may be, for example, the head, torso, arms, and upper legs.

[0036] FIG. **3** is a schematic, cutaway, side view of one embodiment of a boot **14**. Boot **14** may be made integral with garment **10** or may be removable separately from the remainder of garment **10**. Boot **14** may include a pump **50**, a forward insole **52**, and a rear insole **54**. Forward insole **52** and rear insole **54** may include pores **56**. Condensed sweat **42** from inner surface **34** of garment **10** and/or unevaporated sweat **40** may accumulate in boot **14** and pass through pores **56** into a bottom area **58** of boot **14**. From bottom area **58**, the accumulated sweat may enter inlet tubing **60** and thence reservoir **62**. A check or one-way valve **64** may be disposed in inlet tubing **60** to prevent flow from reservoir **62** into bottom area **58**. Reservoir **62** may be, for example, an elastic or flexible bladder. Rear insole **54** may be, for example, an elastic membrane.

[0037] The intermittent force of the heel of human **24** on rear insole **54** and reservoir **62** may pump collected sweat from reservoir **62** through an outlet tubing **66** and, ultimately, through impermeable inner layer **32** to wicking outer layer **36**. A check valve or one-way valve **64** may be disposed in outlet tubing **66** to prevent backflow into reservoir **62**. A quick-disconnect coupling **68** may be included in outlet tubing **66**, particularly if boot **14** is a removable type boot.

[0038] FIG. **4** is a schematic, cutaway, side view of one embodiment of a pump **70** located near an elbow **72** of human **24**. Pump **70** may include an elastic or flexible bladder **74** for containing unevaporated and/or condensed sweat. Bladder **74** may be connected to inlet tubing **76** and outlet tubing **78**. A flexible shaft **80** may have one end fixed to upper arm **82** with adjustable strap **84** and another end that extends toward lower arm **86** and bears on bladder **74**. Inner surface **34** of impermeable layer **32** may include a reservoir **88** for collecting unevaporated sweat and/or sweat that has condensed on inner surface **34**. Reservoir **88** may be in the form of, for example, a flexible, semi-rigid, or rigid gutter **87** with one end **89** fixed to surface **34**. Gutter **87** may extend circumferentially (partially or completely) around the inner surface **34** of a sleeve **90** of garment **10**. Gutter **87** may be made of, for example, a plastic material covered with a waterproof fabric.

[0039] Movement of elbow joint **72** may cause pump **70** to transport accumulated sweat from reservoir **88** via inlet tubing **76** to outlet tubing **78** and, ultimately, through impermeable inner layer **32** to wicking outer layer **36**. Check valves **64** may be disposed in inlet tubing **76** and outlet tubing **78**. A quick-disconnect coupling **68** may be included in outlet tubing **78** to facilitate set-up of garment **10** and to provide an option to use or not use pump **70**.

[0040] FIG. **5** is a schematic front view of one embodiment of a pump **92** located on a torso **94** of human **24**. Pump **92** may be located on the lower chest so that inspiration movements of human **24** may cause elastic bladder **96** to decrease in volume. Bladder **96** may be attached to human **24** using, for example, an adjustable strap **98** that may extend around torso **94**. A reservoir **100** may be disposed on an inner surface **34** of impermeable layer **32**. Reservoir **100** may be in the form of, for example, a flexible, semi-rigid, or rigid gutter **101** with one end **102** fixed to surface **34**. Gutter **101** may extend circumferentially (partially or completely) around the inner surface **34** of a torso portion **104** of garment **10**. Gutter **101** may be made of, for example, a plastic material covered with a waterproof fabric. Inlet tubing **106** may extend from pump **92** to an opening **103** in gutter **101**.

[0041] Breathing movements of human **24** may cause pump **92** to transport sweat from reservoir **100** through opening **103** and inlet tubing **106** and then to outlet tubing **108** and, ultimately, through impermeable inner layer **32** to wicking outer layer **36**. Check valves **64** may be disposed in inlet tubing **106** and outlet tubing **108**. A quick-disconnect coupling **68** may be included in outlet tubing **108** to facilitate set-up of garment **10** and to provide an option to use or not use pump **92**. In lieu of pump **92**, one or more downspouts in the form of tubing **105** (internal to torso portion **104** of garment **10**) may carry contents of reservoir **100** to bottom area **58** of boot **14** or to reservoir **62** in boot **14**.

[0042] As discussed above, pumps **50**, **70**, and **92** may be powered by the natural movements of human **24** that may occur while performing a task. "Natural body movements" are not movements of human **24** that are consciously and specifically directed to only actuating a pump. One or more of pumps **50**, **70**, **92** may be used in various combination and numbers. For example, a multiplicity of pumps may be arrayed circumferentially around elbows, knees, waist, shoulder, underarm, hip and other areas such that the action of bending at these locations may result in bladder compression and fluid output, and straightening at these locations may